

# Nautical DECK Queries

## 1. The sun's center is coincident with the principal vertical circle when \_\_\_\_\_.

*Note: The principal vertical circle is a great circle in the Horizon System of Coordinates that passes through the celestial poles and the observer's zenith and nadir. It defines the north and south points of the horizon.*

A. in lower transit

**Correct Answer:** The sun's center is coincident with the principal vertical circle when crossing at either the upper or lower branch of the celestial meridian.

B. the hour circle and prime vertical are coincident

**Incorrect Answer:** The prime vertical is perpendicular to the principal vertical circle and defines the east and west points of the horizon. For the sun to be coincident with both the prime and principal vertical circles at the same time it would have to pass through the observer's zenith and this is extremely rare.

C. the declination is zero degrees and the azimuth is exactly N 135°E

**Incorrect Answer:** The sun's azimuth must be either 000° or 180° to be coincident with the principal vertical circle.

D. the declination is zero degrees and the azimuth is exactly N 135°W

**Incorrect Answer:** The sun's azimuth must be either 000° or 180° to be coincident with the principal vertical circle.

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## 2. What provides little or no indication that a vessel is dragging anchor?

*Note: The question is asking which of the following conditions is not always reliable. Hence, each answer indicated as being "Incorrect" to the question as stated, is in fact reliable.*

A. Increasing radar range to a fixed object ahead.

**Incorrect Answer:** Repeatedly finding the distance in nautical miles to a fixed object at anchor, such as a day marker or point of land, by a radar range provides a dependable line of position to reference a ship's position. If the distance to the fixed object appreciably increases/decreases, this an excellent indication of dragging anchor.

B. Drift lead with the line leading perpendicular to the centerline.

**Correct Answer:** A drift lead is a heavy lead weight dropped to the sea bottom at the position of the anchor with the line attached to the weight made fast to the vessel. The drift lead is left hanging with a little slack so that if the anchor drags the line tautens and tends forward. Although the drift lead is useful it is not trustworthy in all conditions such as erratic sheering of the ship about the anchor or when there is too much slack in the line. In this example the drift lead is tending "up and down" thus showing no indication of the anchor dragging.

C. Vibrations felt by placing a hand on the cable.

**Incorrect Answer:** A vibration in the anchor cable can develop as the anchor is dragged across the sea bottom and "hops", indicating that the flukes of the anchor are not secured to the sea bottom and that the vessel is dragging the anchor. This becomes apparent in clay or rocky sea bottoms when the flukes of the anchor do not secure the anchor to the sea bottom or as a result of the flukes of the anchor being covered in clay which prevents the flukes of the anchor from re-imbedding into the sea bottom not allowing the anchor to re-secure itself.

D. Changing bearings to a fixed object abeam.

**Incorrect Answer:** When obtaining repeated visual bearings to fixed objects at anchor, the numerical value of the bearing to a fixed object should remain relatively the same to show that the vessel is holding position. Visual bearings on the beam or close to the beam should always be included as a change in the ship's position will be readily apparent. Bearings taken dead ahead/dead astern or broad on the bow or stern will not vary significantly if the vessel moves closer to the object as the vessel drags anchor.



*Prepared by NMC DECK  
Examination Team*

3. Each distress signal and self-activated smoke signal must be replaced not later than the marked date of expiration, or not more than how many months from the date of manufacture?

*Note: Code of Federal Regulations, Title 46, Subchapter Q, EQUIPMENT, CONSTRUCTION, AND MATERIALS: SPECIFICATIONS AND APPROVAL, contains the procedures for the approval of equipment and materials that is inspected or tested by an independent laboratory or by the manufacturer of the equipment or material.*

A. 48

Incorrect Answer

B. 42

*Correct Answer: Code of Federal Regulations, Title 46, Subchapter Q, Part 160, LIFESAVING EQUIPMENT, Subpart 160.021, Hand Red Flare Distress Signals, 160.021-5, Labeling and marking, paragraph (b) and Subpart 160.022, Floating Orange Smoke Distress Signals (5 Minutes), 160.022-5, Marking, paragraph (c).*

C. 36

Incorrect Answer

D. 30

Incorrect Answer

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4. If a passenger vessel navigating the Great Lakes is required to carry 8 ring life buoys, how many of these buoys must have water lights attached?

*Note: Code of Federal Regulations, Title 46, Subchapter W, LIFESAVING APPLIANCES AND ARRANGEMENTS, Part 199, LIFESAVING SYSTEMS FOR CERTAIN INSPECTED VESSELS, sets out the requirements for lifesaving appliances and arrangements for all inspected U.S. vessels except for Offshore Supply Vessels, Mobil Offshore Drilling Units, Small Passenger Vessels, and Sailing School Ships.*

A. 8

Incorrect Answer: According to 46 CFR Table 199.211 requires a minimum of eight (8) lifebuoys required to be carried on board, however, in 46 CFR 199.70 (a) (3) (ii) not all lifebuoys, and in this case all eight (8) lifebuoys, are not required to have self-ignited lights.

B. 6

*Correct Answer: Code of Federal Regulations, Title 46, Subchapter W, LIFESAVING APPLIANCES AND ARRANGEMENTS, Subpart C, Additional Requirements for Passenger Vessels, Part 199.211, Lifebuoys, paragraph (b), specifically states that a minimum of six (6) lifebuoys are to have water lights.*

C. 4

Incorrect Answer: In 46 CFR 199.70 (a) (3) (ii), states that one-half the total number of lifebuoys on the vessel must each be fitted with a self-igniting light. In 46 CFR 199.211 (b) states that vessels under a length of 60 meters must provide a minimum of six lifebuoys with self-igniting lights.

D. 2

Incorrect Answer: In 46 CFR 199.70 (a) (3) (iii) the numerical value of two (2) lifebuoys on a vessel must be fitted with a self-activating smoke signal not self-igniting lights.